

Appln. No. 10/077,215

Attorney Docket No. 10541-1273

II. Remarks

Claims 1-15 are pending in this application. By this paper, Applicants have cancelled claims 1, 2, 7, and 8, and have amended claims 3-6 and 9-15 to more particularly point out and distinctly claim that which Applicants regard as their invention, 35 U.S.C. §112, second paragraph. Specifically, claims 6 and 12 now respectively recite all of the limitations appearing in their respective former base claims 1 and 7, while further reciting that "said external splines have a coating applied to the isotropic surface finish." The latter limitation is clearly taught by Applicants in the specification in paragraph 00013, at page 4, line 21 through page 5, line 3:

Further, in the preferred embodiment, the external splines 14 also have an isotropic surface finish, as described in US 5,503,481 entitled "Bearing Surfaces with Isotropic Finish", issued on 02 April 1996, and incorporated in its entirety by this reference. The tungsten disulfide coating over an isotropic surface finish significantly reduces the friction between the first member and the second member, while increasing the wear and durability of the shaft.

(Emphasis added.) Claims 3-5, 9-11, and 13-15 have been amended to correct antecedent basis, and to otherwise update dependencies in view of new independent claims 6 and 12. Applicants respectfully submit that no new matter has been added by these amendments.

Applicants further note that, as taught in the '481 patent and expressly incorporated by reference as recited above, an "isotropic surface finish" is a surface finish characterized by "extremely shallow irregularities that are nondirectional" and "very low average asperity slopes and likewise a very low plasticity indexes" ('481 patent Abstract, at lines 3-6); see, also, col. 2, lines 28-38 (isotropic surface finish is achieved by virtue of a further finishing step, after the surface is initially machined by grinding to achieve the desired profiles).

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Turning to the substantive rejections set forth in Paper #8, the indefiniteness rejection of claim 2 has been rendered moot, due to its cancellation in this paper.

Claim 6 stands rejected for anticipation by U.S. Patent no. 5,903,965 (Fletcher), while claims 4-5 stand rejected as being unpatentable over U.S. Patent No. 5,720,102 (McClanahan) in view of Japanese Publication JP4013305196A, and claims 7-15 stand rejected as being unpatentable over U.S. Patent No. 2,163,981 (Lawrence) in view of McClanahan. Applicants respectfully traverse.

Specifically, in all rejections, the Examiner cites one of Fletcher and McClanahan as teaching that, "after finish coating the external spline 24b by nylon material, the surface finish of the external spline become smooth to reduce friction, therefore, smooth surface finish is considered to correspond with isotropic surface finish" (Paper #8, at page 3, lines 5-6; and at page 5, lines 19-21). In contrast, independent claims 6 and 12 as amended expressly recite that the external splines themselves have an isotropic surface finish, beneath the coating, since the coating is expressly claimed as being "applied to the isotropic surface finish" of the second member's external splines.

Moreover, contrary to the Examiner's reading of Fletcher and McClanahan, Applicants respectfully submit that these references each teach away from forming an isotropic surface finish on their externally-splined torque transfer member and, hence, the Examiner has failed to make a prima facie case of obviousness in the first instance: Fletcher expressly teaches applying a coating of low friction material to "cleaned and primed" external splines of a torque transfer member, and then "shaping" the coating "to precisely conform to the internal splines" of the other member (col. 5, lines 60-65). Because Fletcher relies upon the "somewhat fluid" conformal coating, rather than a precisely-machined (underlying) external spline, to achieve "precise conformance with the splines 22a of the slip yoke 22" (col. 6, lines 59-61), Fletcher diverges from Applicants's teaching of an isotropic surface finish (as defined in the '481 patent, incorporated by reference), upon which a further low-friction coating is applied.

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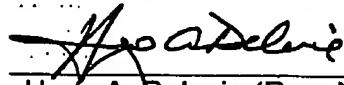
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Similarly, McClanahan teaches applying a low-friction Nylon coating to the external splines of a telescoping driveline slip joint assembly, "where there are selected areas of increased thickness of the low friction coating which are integrally formed from the low friction coating and which provide means for enhancing the dynamic balancing of the drive line slip joint assembly" (col. 2, lines 63-67; emphasis added). Further, McClanahan teaches pre-coating surface preparation by "grit blasting and sanding" (col. 4, lines 65-67), resulting in a surface finish substantially different from Applicants's claimed "isotropic surface finish."

In view of the foregoing, Applicants respectfully submit that claims 3-6 and 9-15 as amended are patentable over the art of record in this application, and the reconsideration of these claims is hereby respectfully requested.

Respectfully submitted,

11/13/2003
Date


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